

SWBAT: explain interference for sound

Jan 4-7:20 AM

Concept Sheet

~ 7 rows when we're done...

We'll fill in two terms (rows) today.

Concept	Meaning	Sym-bol	Units	Picture
<div>PITCH →</div> FREQUENCY	HOW MANY PER UNIT OF TIME $\text{FREQ} = \frac{\#}{\text{TIME}}$	$f$ $f = \frac{1}{T}$	hertz $\text{Hz} = \frac{1}{\text{sec}}$	
PERIOD	HOW MUCH TIME FOR ONE. PERIOD = $\frac{\text{TIME}}{\#}$	$T$ $T = \frac{1}{f}$	seconds sec.	
TRANSVERSE	WHEN THE MEDIUM VIBRATES ACROSS THE DIRECTION THE WAVE TRAVELS.			
LONGITUDINAL	WHEN THE MEDIUM VIBRATES ALONG THE DIRECTION THE WAVE TRAVELS.			
<div>INTENSITY →</div> AMPLITUDE	HOW FAR FROM THE MIDDLE.	$A$	meters m	
WAVELENGTH	HOW FAR FOR ONE "BACK & FORTH"	$\lambda$	meters m	
WAVESPEED	DISTANCE OF A WAVE / TIME OF A WAVE	$v$	meters second m/s	

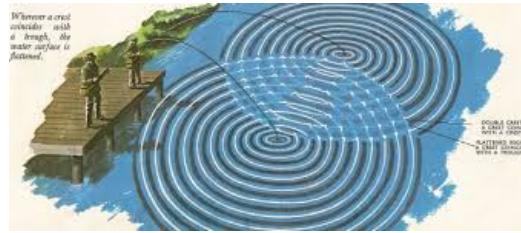
Feb 18-6:50 AM

# Welcome!!!

H. Leslie Grebe

SECA Physics  
Monday 4 May 2015

- \* Pick up:
  - blue concept sheet
  - worksheet
  - slip of paper (for later)



Opening Question:

What does interference mean again?

WAVES ADDING (+ & -)  
WHEN THEY MEET

Centering

Sep 7-7:04 AM

Room 244 PED policy:  
Starts Wed 5/6

Students will lock up their PEDs coming in and retrieve them on the way out.

EXCEPTION: If a student is passing, may have PED with them in class if RHR.  
[tiescloud.net/schoolview](http://tiescloud.net/schoolview)



May 1-8:23 AM

## Interference:

Speaker experiment #1:

**In phase** and  
**out of phase**

$R/K \neq K/R$

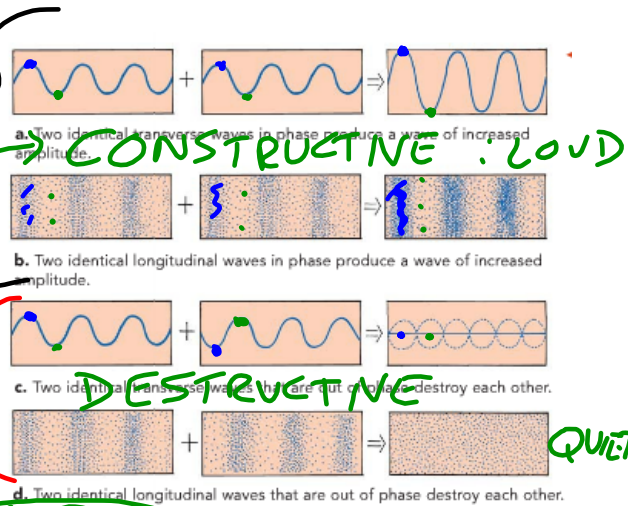
IN PHASE, SAME FREQ.

Speaker experiment #2:

**Constructive and Destructive Interference**

LOUD  
BOTH TRYING  
TO USE AIR  
THE SAME WAY

QUIET  
CANCELS.  
SPEAKERS TRY  
TO DO OPPOSITE



<https://phet.colorado.edu/en/simulation/sou>

Apr 21-7:45 AM

Explain...

Why were there some louder and quieter spots around the room?

May 2-7:35 AM

## Outrageous Acts of Science

A show about viral videos and the science that makes them possible...

### "Veggie Music" Natural Born Thrillers #17

1. Just watch
2. Read the questions
3. Watch again
4. Discuss
5. Watch a last time to catch anything you might have missed



Oct 4-7:27 AM

## CATEGORIES FOR SOUNDS

- LOUDER/QUETER : INTENSITY/AMPLITUDE
- HIGHER & LOWER = PITCH/FREQUENCY
- QUALITIES OF SOUND - TIMBRE  
TINY/DEEP

## CATEGORIES OF INSTRUMENTS

- STRINGS
- AIR COLUMNS
- PERCUSSION

May 2-10:51 AM

## Review - 3 kinds of instruments...

<https://www.youtube.com/watch?v=dOLBn8GKBIA>

<https://www.youtube.com/watch?v=aEWEHJuowLA>

<https://www.youtube.com/watch?v=0D2o8F2MOul>

Fluteboxer, Nathan Lee

Dubstep beatboxer

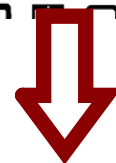
May 2-7:25 AM

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May 1-8:23 AM

### Daily 3 Questions

- \* Every day except test/project days
- \* 3 Questions on the topics of the day
- \* Main source of daily points
- \* I am happy to give credit when I have no concerns about someone giving or getting help with the answers.

CP hmwk: Catch up on homework  
Study for the test

You can't get your points if you don't have your NAME!!!

Name	Period
1.	
2.	
3.	

Sep 9-7:32 AM

1) INTERFERENCE means the result of waves adding when they meet <sup>+ & -</sup>

2) To get the sound to cancel out, my speakers should be

A) in phase

☒ B) out of phase

C) either

D) neither

3) DESTRUCTIVE means where two waves cancel to make QUIET.

Apr 25-7:25 AM